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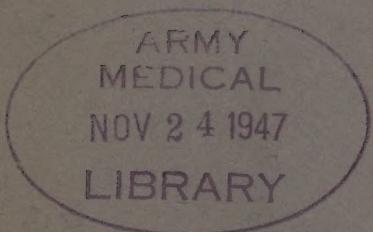
U.S.

ARMY MEDICAL SCHOOL
ARMY MEDICAL CENTER
WASHINGTON, D. C.

BASIC COURSE
IN
CLINICAL PATHOLOGY
FOR
LABORATORY TECHNICIANS

ENLISTED PERSONNEL, MEDICAL DEPARTMENT,
U. S. ARMY

SESSION
1938 - 1939



A. M. C. NO. 216



THE ARMY MEDICAL CENTER
HEADQUARTERS

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Brigadier General Wallace DeWitt,
Medical Department,
Commanding.

Colonel Addison D. Davis,
Medical Corps,
Executive Officer.

Captain Thomas G. Hester,
Medical Administrative Corps,
Adjutant.

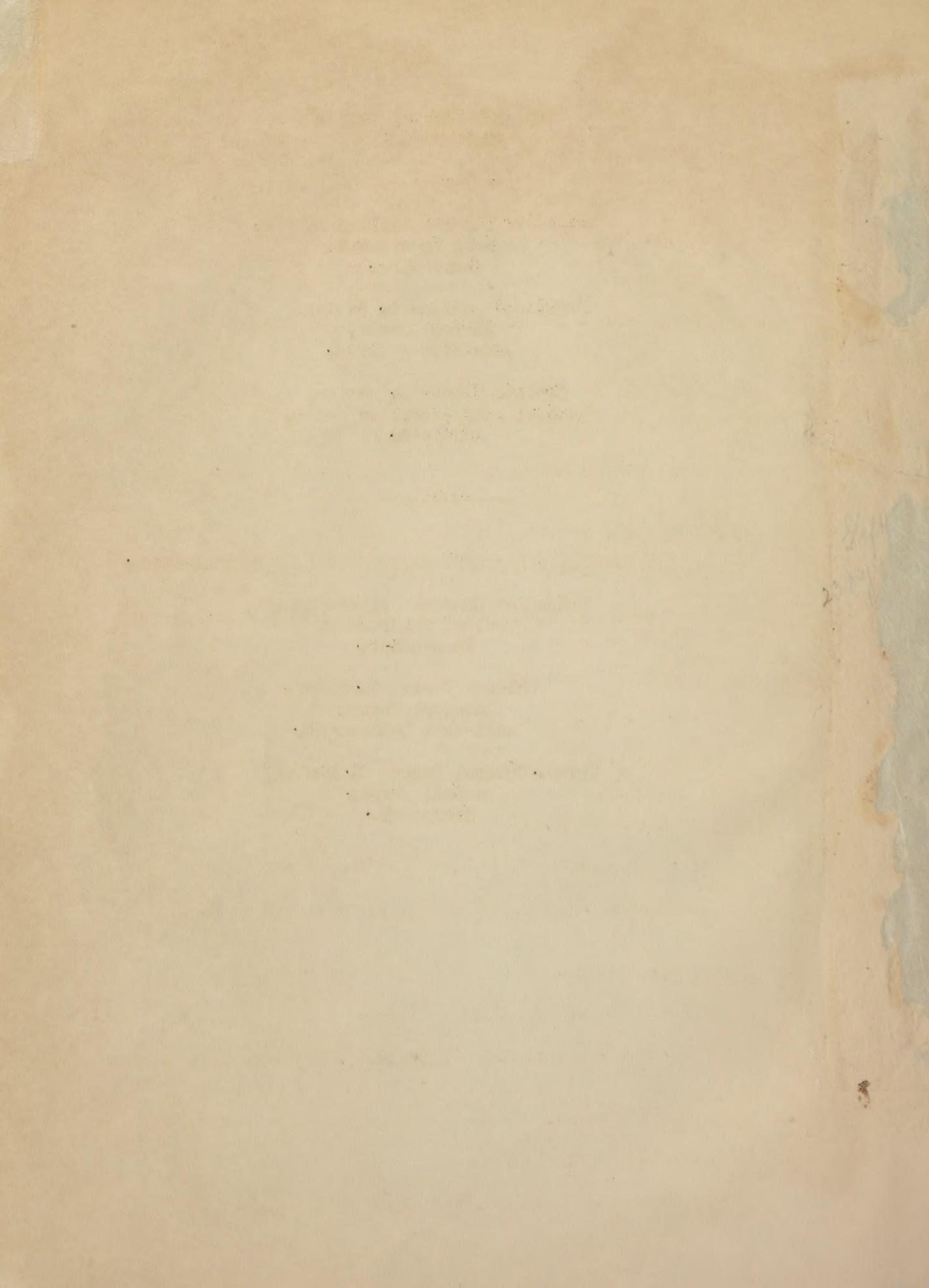
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THE MEDICAL DEPARTMENT PROFESSIONAL SERVICE SCHOOLS.

Brigadier General Wallace DeWitt,
Medical Department,
Commandant.

Colonel Joseph F. Siler,
Medical Corps,
Assistant Commandant.

Lieut. Colonel George C. Dunham,
Medical Corps,
Secretary.



BASIC COURSE

IN

CLINICAL PATHOLOGY FOR LABORATORY TECHNICIANS.

I. CHEMISTRY: $5\frac{1}{2}$ weeks.

September 15 - October 22, 1938.

Instructor - Lieut. Colonel William D. Fleming, M. C.

II. BACTERIOLOGY: 12 weeks.

October 24, 1938 - January 14, 1939.

Instructor - Lieut. Colonel Rufus L. Holt, M. C.

III. HELMINTHOLOGY: 4 weeks.

January 16 - February 11, 1939.

Instructor - Lieut. Colonel Alfred R. Thomas, Jr., M. C.

IV. PROTOZOLOGY: 4 weeks.

February 13 - March 11, 1939.

Instructor - Lieut. Colonel Alfred R. Thomas, Jr., M. C.

V. HEMATOLOGY: 4 weeks.

March 13 - April 8, 1939.

Instructor - Lieut. Colonel J. P. Crawford, M. C.

VI. PATHOLOGY: 4 weeks.

April 10 - May 6, 1939.

Instructor: Lieut. Colonel George R. Callender, M. C.

VII. ENTOMOLOGY: 2 weeks.

May 8 - May 20, 1939.

Instructor - Lieut. Colonel J. P. Crawford, M. C.

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VIII. SEROLOGY: 4 weeks.

May 22 - June 17, 1939.

Instructor - Lieut. Colonel Harold P. Sawyer, M. C.

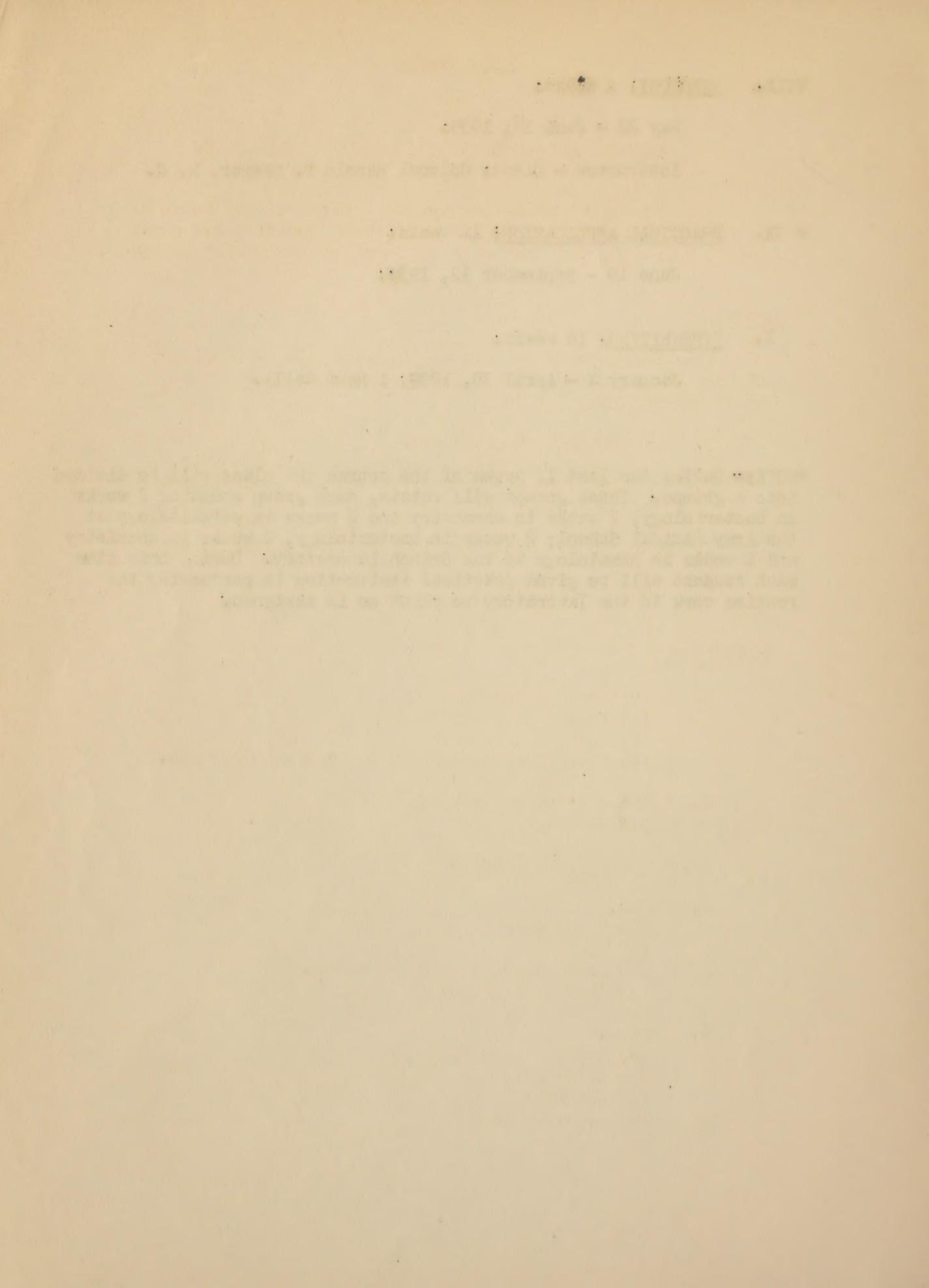
* IX. PRACTICAL APPLICATION: 12 weeks.

June 19 - September 12, 1939.

X. TYPEWRITING: 16 weeks.

January 2 - April 30, 1939, 1 hour daily.

*NOTE:- During the last 12 weeks of the course the class will be divided into 6 groups. These groups will rotate, each group spending 2 weeks in bacteriology, 2 weeks in chemistry and 2 weeks in parasitology at the Army Medical School; 2 weeks in bacteriology, 2 weeks in chemistry and 2 weeks in hematology at the Branch Laboratory. During this time each student will be given practical instruction in performing the routine work in the laboratory to which he is assigned.



BASIC COURSE
IN
CLINICAL PATHOLOGY FOR LABORATORY TECHNICIANS.

This course is of twelve months' duration. The hours of instruction will be from 8 a.m. to 12 Noon, and from 1-4 p.m., Sunday, Holidays, and Wednesday and Saturday afternoons excepted.

CHEMISTRY

This course will include the fundamentals of chemistry and training in the routine laboratory methods used in the United States Army.

1. The cleaning of glassware.
2. Volumetric analysis, including gastric contents.
3. Urinalysis including qualitative and quantitative procedures.
4. Toxicology.
5. Hydrogen ion concentration, buffers, indicators, etc.
6. Blood chemistry.

BACTERIOLOGY

1. Laboratory equipment.
 - (a) Care
 - (b) Use
 - (c) Preparation and sterilization of glassware.
2. Methods of sterilization.
Application.
3. Weights and measures.
4. Media.
 - (a) Preparation
 - (b) Uses
 - (c) Preparation of special media.
 - (d) Selective media.
5. Stains.
 - (a) Gram
 - (b) Acid fast
 - (c) Neisser's
 - (d) Counterstains

BACTERIOLOGY (Cont'd.)

6. Bacteria.

- (a) Classification
- (b) Methods of study.
- (c) Methods of separation and identification. Aerobic and anaerobic.
- (d) Special methods as applied to:
 - (1) Feces
 - (2) Urine
 - (3) Water
 - (4) Food
 - (5) Milk
 - (6) Blood

7. *E. typhi*

- (a) Isolation
- (b) Identification

8. *D. pneumoniae*.

- (a) Isolation
- (b) Identification
- (c) Typing

9. Bacterial flora:

- (a) Throat
- (b) G. U. tract

10. Pus, sputum and exudates.

11. Preparation of autogenous vaccines.

12. Use of the darkfield.

(*Treponemata* and *spirochaetae*)

13. Care and breeding of laboratory animals.

14. Use of animals in laboratory.

HELMINTHOLOGY

This course will include the identification of the common round worms and flat worms and their relation to man and disease. It will include:

1. The flat worms.
2. Round worms.
3. Hookworms and strongyloides and prevention.
4. Methods of stool examination for ova.
5. Practical review.

A written report will be required on twenty unknown positive and negative specimens. Instruction will be given in the preservation and shipment of specimens.

PROTOZOLOGY

This course will include:

1. Methods used in the examination of blood for parasites of malaria.
2. Examination of feces for protozoa, especially identification of amoeba.
3. Intestinal flagellates.

HEMATOLOGY

This course will consist of the following:

1. Performance of routine blood counts.
2. Hemoglobin estimations.
3. Pathological blood counts.
4. Sedimentation rate.
5. Fragility test.
6. Special staining methods, vital staining, peroxidase reaction and reticulocyte stains.
7. Counting of blood platelets.
8. Coagulation, bleeding and clotting time.

PATHOLOGY

This course will consist of training in the:

1. Preparation of animal tissues for histological examination.
2. Preparation and shipment of gross specimens.
3. Technique of the postmortem room.

Synopsis:

1. The preparation of slides for histological examination includes primary fixation using common fixatives, the cutting of the specimen and the various steps in preparation of the slide using both frozen and paraffin techniques. Further preparation includes the use of the more common stains, dehydration and final mounting and preservation.

2. Preparation of gross specimens using the Kaiserling fluids and the methods of shipment of specimens including those for toxicological examination.

3. Assistance in the operating room at postmortem examinations including the preparation and care of the cadaver and the taking of notes as dictated by the prosector.

Note:- The course will include at least one-half day at the Army Medical Museum.

ENTOMOLOGY

This course will consist of a study of the common insects that act as carriers of disease and those that are pests. It will include a study of Anopheles, Culex and Aedes mosquitoes, flies, bedbugs, fleas, ticks, roaches, beetles, ants, moths and other important insects with emphasis on identification and control measures.

SEROLOGY

This course will include lectures and practice in the methods used by the United States Army, including the following:

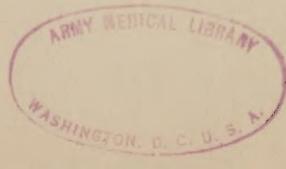
1. The Wassermann test.
2. The Kahn test.
3. The human blood groups.
4. The colloidal gold test.
5. The collection and preparation of specimens for shipment.

TYPEWRITING

The purpose of the course in typing is to familiarize the student with the typewriter, the cleaning and care thereof, and its use in accomplishing the various records, reports and correspondence necessary in connection with laboratory work, or other Medical Department clerical functions.

The periods will include instruction in typing - rhythm and touch typing; the chart; position, stroke, and fingering. Letter combination of keys; high frequency words; special drill. Sentence structure; punctuation, capitalization and spacing. Use of carbons; neat erasures. Letters; official and business. Straight copy work from manual. Numerals. Special drill in form and arrangement of material. Drill on business expressions; on official paragraphs.

The instruction will vary more or less according to the individual needs of the students.



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